

Chapter Six

Descartes's *Discourse on Method*

The *Discourse on Method* is a very famous book, but it is also quite unsatisfactory. It is, of course, not a book in one sense but an introduction to a volume that contains, in addition, three other writings—three scientific writings—the *Dioptrics*, the *Geometry*, and the *Meteors*. Now why is this book so widely read, as widely read perhaps as any philosophical book? Its appeal seems to be, first, that it is autobiography. It is rare for a philosopher presumably concerned with the universal, the timeless, to spend so much time telling us the particular details of his own life. Autobiographies are written by statesmen or by movie actresses or shall we say by retired surgeons, but very rarely by philosophers, that is, until modern philosophy—that is, beginning with Descartes. After Descartes we have of course Vico; we have something that looks like autobiography, called the *Confessions* of Rousseau. Descartes seems to establish a genre. Now we catch on to the trick of Descartes's book fairly quickly. The stages of his life are not only correlated with, but in fact identical with, parts of his philosophic system. This means that we acquire the whole of Descartes's philosophy in an effortless but very unsatisfactory way. Nothing in this book is really thought through or at least carefully and adequately reasoned through. And so we are left to wonder what Descartes had in mind when he wrote the system as the story of his life.

A glance at the table of contents tells us where to look to answer this question. In the sixth and last part, Descartes says that the author will supply the reasons that caused him to write; and so as a kind of timesaver, I shall turn directly to the last part of the *Discourse*. It begins very quietly and soberly. He was about to publish a treatise when he heard that a certain opinion in physics had been condemned by an authority, and he grants that authority a certain place. He does not name the person that was condemned or the book that was

condemned or the authorities that condemned them. The reticence is hollow because everyone at that time would know that the author of that book was Galileo, that the condemned doctrine was Copernicanism, and that the authority that condemned it was the Holy Office, more often referred to as the Inquisition. He doesn't have to spell that out because his readers already know it. He says that this book, so far as he could tell prior to the condemnation, as far as his reason could tell him, was not harmful to church or to state. Reason, that is, is no guide to what you can publish. So he suppressed the book. That's my first point: we must note the theological-political situation after the condemnation of Galileo. This is the "hermeneutic situation" of the *Discourse on Method*.

The condemnation of opinions advanced by philosophers is nothing new. The new thing follows, and this is my second point. Descartes does not in fact really say that he wishes to argue that there ought to be freedom of speech or that Galileo should be allowed to publish that book. He does not offer the kind of argument for the freedom of publication that we in the twentieth century somehow automatically read in. No, the new thing is that the situation is intolerable for a second and different reason that now enters the scene. The new thing Descartes has discovered on the basis of his physics, rather by chance—we have to keep our eye on that—is this: suddenly after completing his philosophy, but especially his physics, he discovers the possibility that philosophy no longer needs to be theoretical, which means no longer concerned with knowledge of first principles of the whole sought for their own sake. That whole tradition of "speculative philosophy" may now be laid aside in favor of "practical philosophy." And it is here that he introduces that memorable praise of practical philosophy: it will make us humans the "masters and owners of nature." He now argues in detail why this will be of immense potential benefit to all mankind, in three fundamental ways. It will produce, first, an infinity of inventions that will satisfy our physical needs; second, it will produce a genuinely scientific medicine, a medicine that will produce health, "the first good and the foundation of all other goods of this life"; third, it will lead to a kind of new practical wisdom, based somehow on this peculiar science, medicine—peculiar, because the medicine is not what we normally think of as medicine but a science of the acute dependence of the mind on the body.

Now, the third reason why Descartes publishes arises from the first two. Since the public or humanity is to benefit from this project, Descartes turns to the public to support his project, which means not only the public but also the rulers of the public. They must support the project, and thereby alter the theological-political situation after Galileo. Now we understand immediately from that why the first fact of the *Discourse*—its popular style—is absolutely crucial. But of course it is not the public but young philosophers and scien-

tists who will carry out and complete Descartes's work. And no matter how popular the writing is, Descartes is emphatic that he has placed in the book quite enough for intelligent readers to take their bearings by and to carry on his endeavor—he means in the *Discourse* together with the three scientific treatises that accompany it. Since the book must persuade the public and their rulers to alter the theological-political situation, but is also addressed to philosophers and scientists, it is necessarily written on two planes. And we shall find abundant evidence of that. You could say that rhetorically the book has this double addressee, public and philosopher. If you think about it, it also has two opponents: first, the Church, which is sedulously distinguished from the secular political authorities in the context—the Church insofar as it is an obstacle to this project; and second, theoretical or speculative philosophy—mainly Aristotelianism. But one can combine those, of course: the name by which we join together those two great powers is “Scholasticism” or *L'Ecole*.

With these first intimations of Descartes's intentions in the *Discourse*, we are ready to start at the beginning. The first thesis in Part 1 is that good sense or reason is by nature equal in all men. Later on he will flatly contradict this. In Part 2 and at a still later point he will argue that some men are naturally much more stupid than others; for example, even the most stupid man can invent sign language. That is, the first thesis in the *Discourse* is an example of the use of deliberate contradiction. What is the point of this contradiction? We begin with the first thought, so familiar to us. Our good sense or reason is equal because everybody is satisfied with as much as he's got. Notice that the beginning is quite pleasing: you don't have to envy anybody. But of course, it's also a fallacy. It's an old French proverb that Descartes picked up in Montaigne. If you notice that it's a fallacy, of course, you're especially pleased, but this time with your own superiority. Everybody's pleased! It's a very pleasant beginning. This is irony, in the most technical sense of the word, addressing two different thoughts to two kinds of readers in one and the same sentence. Descartes in the first paragraph, in the one-sentence paragraph, gives us a little ABC “how to read me” lesson.

But it actually goes on for five paragraphs, which you could call the proem to the book. It has an interesting movement—something like this: Paragraph 1: All men are by nature equal. Paragraph 2: I, however, am inferior to other men in certain perfections of mind, imagination, memory, and so on. Paragraph 3: I was lucky; I happened to find a method that made me a philosopher and superior to other men. Paragraph 4: Maybe, however, I'm fooling myself—like a deluded alchemist who thought he discovered the philosophers' stone. Therefore I will level with you and simply tell you the story of my life. Paragraph 5: The story of my life, however, is a history, or if you prefer, a fable. Everybody, I hope, will thank me for my frankness, on the old

principle that everybody thinks an author means exactly what he understands in the author. But that Descartes intends the duality of level, of the *Discourse* as history and fable, becomes perfectly clear because shortly afterwards the terms “history” and “fable” come back in again. Generally speaking, fables simulate and histories dissimulate, and histories must be “read with discretion”—that is Descartes’s recipe for reading the *Discourse*. Putting this together we ask: have we learned anything about the autobiographical character of the work? Yes. Autobiographic form is a device that dissimulates superiority. Descartes is able to speak on the plane of autobiography while at the same time indicating via that same autobiography a different level of teaching. This means that we often have to interpret this book on the public level before we find its arguments. We’ll come back to that in just a moment.

The argument proper of the *Discourse* begins in the heart of Part 1 with Descartes’s critique of his college education. He starts with a goal: clear and assured knowledge useful for life. He claims that he was taught that goal by his Jesuit teachers. At the end of this college discussion, he reiterates that goal, only this time he calls it not clear and assured knowledge useful for life but useful for *this* life. He has left his Jesuit instructors behind in one decisive respect. This principle, call it certainty for the sake of utility, in this life, is the first principle of Descartes’s methodology. In reading this book, we have to distinguish between the method—the four rules that we find in Part 2—and the methodology, the more general guiding principles out of which comes the method proper. The whole book is *Discourse on Method*, that is, *logos* on method, that is, methodology. The word is a nineteenth-century word but the thought is Descartes’s. The methodology will come down to a small number of guiding principles. In the particulars of his education only one thing, mathematics, is certain and nothing is really useful, useful for life. Certainty is one thing, utility another. Do the two ever come together? Now, initially, Descartes surely leaves the impression that he seeks certain knowledge of the useful; thus, in that way, the two would be united. That would mean, for example, mathematical knowledge—knowledge as certain as mathematics—of the goals of human life. This he never attains, and, if we observe carefully, never really attempts. It is not really his notion that we can apply a doctrine of certainty in any of its forms, mathematical or methodical, to the question of the good.

The quest for certainty is much more obtrusive in the book. It is spelled out through a series of steps: mathematical method, metaphysics (which is said to be even more certain than mathematics), and mathematical physics. It surely supplies premises or conditions for the other inquiry, which is about utility, as articulated into the knowledge of the goals of life or the goods of life. While certainty is always in the foreground, the other inquiry, into the good life, is

ultimately distinct. It is always based on experience, and it is never certain. That is, the more fundamental, that which supplies the direction, is always on the plane of the empirical. The certainty-utility distinction is the ancestor of the distinction familiar to us between facts and values, but this ancestry can be misleading, since Descartes never restricts knowledge to the certain. The ultimate guiding knowledge is always of the goal, the end, the useful, and it is never certain. The primary question is "what is the right life?" and in that respect Descartes is clearly in the Socratic tradition. In the *Discourse*, these themes are developed in alternation: the certainty of method in Part 2; Part 3, morality, which is uncertain; Parts 4 and 5, metaphysics and physics, which belong in the sphere of certainty; and finally, utility—that means the end, that means the uncertain again—returns in Part 6.

The sphere of certainty is a program that has to be developed. But the utility or the good has to be discussed immediately. Otherwise Descartes does not know where he is going. But where is this initial reflection on the useful or good? The answer is conveyed through the particulars of his autobiography plus certain general remarks, for example, about ancient morals. He gives us the basis for this principle of interpretation by the following argument: He was studying in one of the best schools in Europe. Europe in his century was as flourishing and fertile in great minds as in any previous time. He was judged by others to be the equal of his fellow students and thought so himself, and the students were destined to replace the masters. That means that he is the equal of any man that ever lived in the tradition, in philosophy, theology, liberal arts, and so on. He has elevated himself by the argument to the position where he can claim that his particular judgment is worthy of consideration as a general verdict upon the tradition of arts and letters, which means the whole tradition of learning including philosophy and theology. Every particular biographical detail, then, has potential general meaning, and we have to enucleate this general meaning often out of particular facts.

In Part 1, the reflection on the good leads to this general view, if we put together some of these details: Our reason, human reason, is exclusively in the service of our own interests or subordinate to the passions or the desires. And the desires do not include a particular desire to know, to know for its own sake. I call this the natural egoism of reason. Initially, as you recall from the very first paragraph, the stress is on how egoism distorts our reason: good sense is equal because each man is satisfied with as much as he has, because each man's ego thinks as well as possible of itself. Ego distorts reason. But at the end of Part 1, after Descartes's travels, he says that he has learned—and this is obviously an empirical inference—that "the reason of each" (the phrase is identical in the first paragraph) is sound when it is concerned with what is immediately before one on those occasions when an error causes pain.

And it is sounder than the speculations of the men of letters. That is, it is sounder than those who are concerned, so they think or so they say, with knowledge for its own sake. That supposed concern is simply an attempt to be superior to "common sense"; it is vanity. We know from the later passage about "speculation," and its rejection for the sake of mastery of nature, that it is one of Descartes's key terms. The rejection of speculation or of speculative philosophy here is really on the plane of a general thesis about all men's nature. This primary level of critique is on the plane of the human soul as such. Hence in the whole *Discourse* Descartes never says that there is a natural desire for knowledge, or that philosophy begins in wonder. In the decisive context for this issue (*Discours* 5, near the end), when he asks "what is man?" he first compares man to machines and then says that the same principles that distinguish man and machines apply equally to the difference between man and animals. It is in that context, where he says what man is, that he says what reason is. Reason is necessary and it is described as an instrument—a universal instrument, but an instrument. That is the conclusion already prepared by the natural egoism of reason. Since reason serves the passions, and doesn't naturally seek knowledge, it needs to be conducted. Hence the title of the book, *Discourse on the Method for Conducting the Reason Well*. Descartes goes on to add: *and Seeking for Truth in the Sciences*. The title's duality mirrors the utility-certainty duality that we were speaking of before. Thus, for Descartes it is the nature of the soul, which demands that reason be conducted, that leads up to the method proper.

How does Descartes establish this proposition? If you deny natural egoism, then you talk about virtue as did the ancient writings on morals, lofty and splendid but built on sand, or without any real knowledge of how you acquire it. What is needed is the low and solid foundation for morality or virtue, namely, the foundation of natural egoism. Consider a second example. If you do pursue knowledge for its own sake, as had been claimed by the whole philosophic tradition, what is the result? Endless disputes without resolution, and nothing so strange or incredible that it hasn't been maintained by some philosopher. And if the philosophers had found the truth or if they had been honestly in quest of it for its own sake, would they not have found it? This last argument is, of course, troublesome because it suggests that the truth must be essentially simple. If men had found it, they would have been able to convince each other and put an end to the dispute. But can the truth about the first principles of all things, of the whole, be essentially simple? There is another possibility, namely, that the truth which the philosophers sought, the truth of ultimate principles, is either unavailable or is unnecessary or both. The first principles may be replaced by methodology, and that is, in fact, what I shall be advancing as a reading of this book.

By the end of Part 1, Descartes has advanced the notion that all men naturally pursue their own good, although some men naturally have more reason than others. So Descartes asks, "What way of life should I follow? What is the good for me?"—for a naturally superior man. Part 2 develops this question of the good, and then Descartes tries to make the certainty and the need for method emerge out of the good. Since philosophy, traditionally understood, is evidently not the good life, whereas other human pursuits evidently are useful, Descartes asks the question in what the perfection of these pursuits consists. It is a meditation on perfection. Perfection is more probable if the activity is conceived and executed by one master. That is especially true in the arts: and the arts are recognizably useful and benevolent human activities. Furthermore, all human activities, if well carried out, have the character of art. In addition, the arts have a structure; they in certain cases include others or are more comprehensive than others. The builder of the house comes under the one who plans the city, and he, in turn, under the legislator who lays down laws for a whole people or nation. Since the arts as such are benevolent, the most comprehensive is the most benevolent, always assuming, of course, that it was the work of one and not of many. Finally, Descartes takes the step that reasoning itself, or philosophy, may be considered as an art. That means that philosophy is considered as a form of mastery. But it must be made one, or it must be purified of its manyness. Descartes traces its manyness both to the variety of teachers that we have and to the fact that owing to our nature, reason develops much later than our passions and our senses. That disproportion in human nature has to be overcome; mastery of human nature is the first condition of mastery of nature simply. Several purgations of both kinds of manyness are necessary, and that points directly to the model of that which owes nothing to nature, to the senses, or to teachers, namely, the truths of geometry and mathematics.

This project—a word Descartes uses in this context—could be just a vain hope. Most of the arguments that we've been using about mastery and about perfection through mastery are taken without acknowledgment from Francis Bacon's book on method, the *New Organon*, published seventeen years before. In that book, there was a long section, thirteen aphorisms, on reasons why the human race can have hope, ultimately thanks to a methodical science of nature. But Descartes doesn't need to argue that we need to have hope: he already had a science of nature before he dreamed of "mastery." While he is proceeding in a series of arguments here in *Discourse*, Part 2—from the argument about mastery to the need for purification of reason to the need for method—his own life proceeded in the opposite sequence. Before he ever imagined that philosophy could be understood as mastery, he had fully conceived and executed a universal method and shown that this could

be successfully applied to the science of the physical world. In an earlier fragment called the *Regulae* there is not a whisper of an argument about mastery, but there is a fully developed argument about mathematical method. This earlier fragment is plainly not a quest for first principles, and therefore the question arises, what is the intention of philosophy? In that book there is hardly any answer. Between the *Regulae* and the *Discourse* Descartes learned from Francis Bacon that the end, since it cannot be theoretical, must be understood practically. That means that the book we are reading is, in its apparent biographical sequence, in fact the reverse of the truth, or it is a fable, not history.

One could say that that's not quite sufficient—that it is still the story of this unique man, suitably modified, that tells us that it is his unique passion for mastery, his unique natural temperament, his ego, which explains why it is a model. In other words, by gathering the inner truth of the autobiographical account, we don't leave the ego of Descartes behind. No, we simply understand its thought in the correct philosophical sequence by retaining the crucial importance of the fact that his whole project had to be conceived in one ego of a certain kind, namely, that of Descartes. As regards that egoism, we have the notions of mastery and perfection and of benevolence. We do not yet have the notion of the recognition for the benevolence, or glory, except for a statement in Part 1 where Descartes says, "I do not despise glory as do the Cynics." That's a clue to his willingness to acknowledge glory as part of the good. To summarize this point, we move from the natural egoism that is common to all men to the peculiar egoism of this man, his quest for mastery, and both of the stages will be prior to and conditions for the epistemological ego that will emerge in the famous sentence from Part 4, "I think, therefore I am."

At this point, in between mastery and method there is a political interlude, a kind of acknowledgment that Descartes is on a collision course with society. He must purge his reason; he must doubt all belief and opinion. But what are belief and opinion? They are the bond, the constitutive bond, of these "great bodies," as he calls them, societies. Therefore, his reform must be kept absolutely private. If he were to publish the necessity for doubting all belief, he could be reasonably accused, he says, of attempting a new reformation, a word he uses twice in the context. Remember the year: 1637. What's going on at that time? The Thirty Years' War, that is, the war whose primary, though not sole, cause is the Reformation. This whole part of the *Discourse*, Parts 2 and 3, begins with allusions to the war that's going on. We must connect "reformation" with those particular wars. Since he says, "I am only going to reform my own thoughts," it might seem that Descartes is politically a conformist, an upholder of the status quo. That would be plausible if he didn't publish the fact that he is obliged to doubt all his beliefs. Moreover, the con-

clusion would be acceptable if Descartes didn't discuss at some length the problem of reforming these great bodies and indicate that reformation is primarily a matter not of legitimacy but of prudence, that is, of success. Descartes, furthermore, leaves no doubt that the extant political states are all in need of reform. At this point Descartes doesn't have any new political doctrine. But we know in reading this part that we are reading a published book. So this private man did eventually publish his demand for the doubt of all opinions, and thereby indicate that he has in mind some sort of reformation. Reform will require disciples, imitators. The world is almost totally made up of two kinds of men who ought not to imitate his model. The first kind is too hasty and impetuous; the second are those who have enough reason, or enough modesty, to know they don't have enough reason to imitate Descartes. You can see he wants a man who is persevering, who avoids precipitancy in employing the method, who has superior brains, and is immodest. In that way, while telling you that "almost" the whole world is made up of those two kinds who should not imitate him, he has of course exactly specified the kind of men that should imitate him. I think that's one of the clearest places in the entire work where you see a distinction of kinds of readers of Descartes. The peculiar kind of reformation has already been indicated: change the theological-political situation so that the project of mastery of nature can begin to develop and benefit mankind.

In approaching the method proper, we are at a great disadvantage, because we have presented here in words a method that is in principle mathematical. Descartes, I think, intends us to read this section in light of the whole argument, the method in the light, shall we say, of the methodology. For example, immediately following the four rules of method, Descartes makes a general proposal: all the things that fall within the knowledge of man, he imagines, could be interconnected by deductive chains of reasoning, just as we find in geometry. He imagines, that is, a kind of universal deductive system of everything. And yet that has to be corrected by what we have already seen and shall see: the applicability of method is partial. Neither the reflections on the good that have preceded nor those that follow can be mathematicized, nor can they be studied by the four rules of method. To anticipate, we cannot demonstrate mathematically, and we do not need to demonstrate, the fundamental premises, that pain is bad and pleasure is good. You can deny those truths without contradicting yourself, but they are as certain for any living human being as any principle of mathematics.

We shall say a few things about the rules of method just to indicate what is involved without really explaining them adequately. The rules of the method are meant to point to a set of algebraic operations. Descartes's algebra uses algebraic symbols, that is, algebraic signs, not only as symbols of arithmetic

qualities (numerical amounts), but also as symbols of geometric magnitude. But, in addition, geometric figures can in turn symbolize both algebraic symbols and arithmetic amounts. That is bewildering. Thinking it through, what is at work is that the intrinsic intelligible differences between the kind of entities that you're studying in arithmetic, say numbers, and the kind of entities you're studying in geometry, that is, lines, and so on, or the distinction between discrete quantity and continuous quantity—all those differences can be ignored by the right technique. We know that, after Descartes, it came to be called analytic geometry. Now what else can we say about this method? The third rule says that we devise an order of inquiry—we invent one—if a natural order of inquiry is not available. That is, method to be certain need not be guided by any natural articulation that we ordinarily find in things. All that's necessary is that you have the certainty of the starting point, which makes possible a deductive sequence from that point forward. Essentially, the tactic is to find in the analysis of the terms of any problem the starting point, the simples, as he calls them, which are irreducible to anything else and which may be combined and brought into relation, and stated in algebraic symbols, and so on. If you think about it, what Descartes is advocating is that you do not start from where we naturally stand, that is to say, as human beings who have sense perception and opinions, and from that point seek to understand the phenomena and somehow to get access to more fundamental principles. This characteristic starting point, which one could say with some reason is the natural starting point of philosophy, is abolished by this methodological procedure. Another way of putting it would be that Descartes's intent is to find a starting point not in the prearticulated kinds of beings, but rather in principles that cut across the natural articulations. What sort of things would they be? Laws! Mathematical laws that govern all kinds of bodies, whether they be animals, plants, or whatever. Now there is a silence, a darkness in the argument here. What is it that Descartes is claiming to know? Only at a somewhat later point do we see that nature is understood by him as body, and as extended body. Now finally, and in a way most crucial, the simple thing about method is that method is not only a way of discovering but also a guarantee of knowledge. We usually distinguish between discovery and validity in recent discussions of methodology, but that distinction is not at all acknowledged by Descartes. Method of discovery is identical with method of validation, or verification, if you like. That means if you learn something by the method, it deserves, owing to the methodological procedure, to be called "knowledge." There is no necessity that you trace the causes of what you know to still more general or higher causes. At each step, in short, you have a fully guaranteed claim to know, thanks to the methodological procedure. For example, we don't need to understand bodies in terms of the ultimate parts or particles.

This demand for ultimacy is one meaning of the traditional term "metaphysics," and we shall have to keep our eye on this matter because our initial judgment, reading the discussion of method proper, is that there is no need for metaphysics—no need for a further warrant, no need for a quest for the causes or ultimate principles underlying these causes. But that seems to be contradicted later in the *Discourse*. Since this contradiction makes the metaphysical discussion in Part 4 of great importance, I am going to some extent to slight the contribution of Part 3, the provisional morality.

Descartes says elsewhere that he put this morality in the book in order to persuade pedagogues that he was not against religion. When we read it, its piety isn't all that persuasive. For example, rule one says "Conform": conform to the laws, customs, and religion of my country—that means the laws, customs, and religion of Catholic France—or, he says, to the most moderate opinions wherever you are. But you may be in Persia or in China—you see how loyal he is to the laws, customs, and Roman Catholicism of France, or to the Christianity of Europe. But, he goes on, "conform to what people do, rather than to what they say, because in the corruption of our morals, there are few people who want to say all they believe." That belongs again to our rhetorical problem: why the double level of speech? Well, here's one reason: because of the corruption of morals, few people "want to say" all they believe. In Part 6 he says, "I do not *want to say* that I agree with Galileo." He indicates quite clearly in that way, by this very precise repetition of the phrase, that he did agree with Galileo. Now, "conform" apparently means even to despotism or tyranny, so long as it leaves you alone to philosophize. But some countries are better than others, and at the end of Part 3 he goes to live in a country, Holland, where they leave you alone, at least more than elsewhere.

Rule two says "Be resolute," persevere in one direction. The four rules have a kind of rhythm: rule one, externally, conform; rule two, internally, be resolute; rule three, externally, conform, this time not to society, but rather to the order of the world; rule four, internally, find your satisfaction and contentment in the continued pursuit of the truth. None of these four rules is clear and distinct in the strict sense of the method. "Clear and distinct" in the strict sense means what cannot be doubted. And the indubitable is that whose denial produces a contradiction. None of these moral principles has that character. Therefore the statement in the table of contents that he drew his morality from his method cannot mean that he drew his moral rules from the rules of the method. What it means is that the necessity for a provisional morality, and certain fundamental characteristics of that morality, are created by the adoption of the method. For example, because you do not take your bearings by the natural articulation of things, as is implied in the method, you are in

the situation as described in rule two, you are in a forest—you do not know where you are. That is to say, the world around you does not supply any articulation; therefore, you adopt a direction and persevere, regardless of what seems to be around you or how the world seems to be articulated.

Rule three is particularly interesting, because it is about mastery. It seems to be just the opposite of what we've been construing Descartes to say in Part 2. The rule begins by saying, "I agree with the Stoics, don't try to master fortune or change the order of the world, but only master your own thoughts." When we follow this through, we see that Descartes is not really a Stoic. He is a satirist of the Stoics. For example, he says if you should follow this splendid precept, you would not want to be healthy if you are sick—after all, only your thoughts are in your power and you don't concern yourself with what's outside your thoughts. You will not want to be healthy if you are sick, or be free if you are in jail, any more than you want to fly like the birds or have a body as incorruptible as diamonds. In this absurd manner, in short, the Stoics thought they could rival the gods, but only by forgetting their humanity, their corporeality, and their mortality. The limits of what is in human power now are not identical with what can ever come within human power. We have to correct for this satirical element in order to make the third moral rule agree with the mastery arguments that preceded it and with the great stress on health and medicine that will follow. The fourth moral rule is not really a moral rule, but states the goal that underlies the other three rules, namely, to continue to pursue the truth. Here we find two very innocent words, contentment and satisfaction. They recur in a technical sense in many contexts in Descartes. Contentment means a state that reflects the general character, the goodness of one entire life that has been chosen. Satisfaction is the pleasure that attends a particular activity, here the discovery of the truth. Both belong together as kind of a refined hedonism that has as yet no moral relation to other human beings, except the negative one that we have seen in rule one, conformism. Descartes is silent here about what it is that he knows that is so pleasant. But already by the end of Part 3 it seems quite clear that he has embarked upon some of the fundamental researches of his physics and he alludes to some of the inquiries embodied in the accompanying three treatises. Nonetheless, he argues in the sequel that the science of physics must not, as that would suggest, precede metaphysics; it could not, for it must derive from metaphysics. So we must consider the metaphysics, and then see the relation to physics.

In Part 4, Descartes treats three of the traditional problems of metaphysics. The first is substance, what it means to be, in any and every case in which we say something is. The second is the question of the ultimate, what is first, the cause or principle of the whole. The third traditional problem is truth. Descartes says that the human soul is a substance, that God is the first or ul-

timate thing, and that truth is clarity and distinctness. That appears to be fairly traditional metaphysics, vaguely Aristotelian. Looked at more precisely, it supports Christian doctrine and so is traditional in a second sense. The human soul is an independent substance that can exist apart from body; God in an omnipotent being; and clear and distinct ideas are true ideas only if they are guaranteed by God. That is, all three doctrines, taken in a more precise sense, offer considerable support to orthodox religious apologetics. Indeed, you can say, the implications of these metaphysical doctrines appear to offer a more direct support to Christian apologetics than the arguments that we find in Thomas Aquinas. They face two ways: toward foundations of philosophy, but also toward rational corroboration of Christian faith.

Consider the first argument, about the soul. Descartes says that after having doubted many things, including especially body, he cannot doubt that he exists, and since doubting is thinking, "I think, therefore I am" is true. This principle—the *cogito* as we call it for short—is "the first principle of my philosophy." It is the first principle not because it is the most certain: obviously it presupposes the principle of noncontradiction. It is first because it enables Descartes to solve a problem, the relation of mind to the world. There is a double requirement: the knowing or thinking of mind must be pure of influences on the mind, without the being of mind being hopelessly separated from the world. How does this happen? The knowledge that he is a thinking thing does not depend on knowledge that he is a bodily being. Thus, the thinking of the thinking thing is epistemologically independent of the world of bodies—that guarantees the epistemological independence of mind from the world. But it is not independent in being—not metaphysically independent. The fact that I know only that I am a thinking thing does not mean that I am only a thinking thing, that is, a mind whose existence is independent of the existence of body. Yet Descartes does draw this conclusion: mind or soul is a separate substance, independent of body, and therefore could be immortal. That supports religious apologetics. But Descartes waffles: he admits that the argument for an independent soul is fallacious in the preface to the *Meditations*. So we must separate the solid conclusion—epistemological independence—from the fallacious conclusion—metaphysical independence—that supports the apologetics. The solid argument does not imply that mind or soul is a substance: we have to separate the solid from the metaphysical.

Consider now point two, the existence of God. Descartes argues from an idea in the mind in both of his proofs of the existence of God. That is, he does not argue, as Thomas Aquinas had argued, from nature to God. There is no ascent from nature to God because Cartesian nature shows no evidence of being made by God. Cartesian nature is mechanism. "The laws of nature," says

Descartes, "are the same as the laws of mechanics." Since mechanism is devoid of purposes, nature shows no evidence of the purposes of God. Thus Cartesian physics, in its mechanistic character, determines in this negative way the character of the proofs for God's existence: they cannot begin with nature. The sequence of the *Discourse*, first metaphysics, then physics, is the reverse of the true sequence. But if nature shows no evidence of a divine author, then this theocentric metaphysics is in profound discord with the Bible. That discord is kept out of sight in Part 4, because theocentric metaphysics is positioned before physics puts in an appearance in Part 5.

Consider now the third point, truth. Descartes argues that truth is clarity and distinctness. First, he proves that God exists, using clear and distinct ideas; then he says that God is the guarantor of clear and distinct ideas. That is the Cartesian circle, a famous problem. But it is, of course, strong support for religious apologetics: all our ideas, including especially truth, depend on God. If you think about the argument, it is a very interesting interpretation of omnipotence. If an omnipotent God exists, then it follows that he was the cause of your thinking at each step of the prior argument, just as he is the cause of everything. Circularity of argument, in short, is unavoidable: if God is omnipotent, then circularity of human reasoning is unavoidable, and philosophy becomes problematic.

Did Descartes wish to undermine philosophy in order to support a religious apologetics? Precisely the theocentric character of the metaphysics undermines the rationality of philosophy while seeming to support apologetics. But now we observe something new: the apologetics itself is designed only to persuade a relatively low human type, what Descartes calls "weak minds" (*esprits faibles*). "Next to the denial of God, nothing leads weak minds away from virtue more than the denial of the immortality of the soul," he asserts in the last paragraph of Part 5. Descartes is not a weak mind, but a man of good sense, an *esprit fort*, a strong mind. Since Descartes does not himself need apologetics—neither he nor his disciples—we wonder whether he needs theocentric metaphysics. It now appears that he prefers philosophy to the theocentric metaphysics that jeopardizes philosophy. The metaphysics proves to be divorcible from his philosophy. This divorce first appears in the divorce of physics from metaphysics.

From Part 4, we have learned that there is no ascent from things or nature to God as their author or first cause. Is there not, however, a descent from God to nature? If there is neither ascent nor descent, to or from God, then God has no relation at all to nature. God would be redundant in the Cartesian philosophy. Descartes must descend from God to nature, or descend from God as the author of nature to nature, if he wishes to preserve a harmony between his philosophy and the Bible. The laws of nature must be shown to be compati-

ble with the biblical account of creation—that's the first problem of Part 5. It is obviously not fundamental for the question of Copernicanism in Galileo, who did not even know the laws of nature in this sense. As regards the action of God, we have to be quite careful and enumerate precisely what is attributed to him. God has established laws of nature and has imprinted ideas of these laws on our souls. Moreover, God has created matter sufficient to form the world. And he agitated the matter in diverse ways so that it obeys the laws of nature. He does nothing else. That is, in the beginning, God created chaos, but a chaos of bodies that obeyed the laws of nature, out of which, bit by bit, slowly over eons of time, evolved the physical world as we know it, the sun, the solar system, the earth, and on the earth, plants. Animals—that's a problem: Descartes cannot deduce them. In the sequel, he has to make two corrections in this account. The ideas of laws of nature are imprinted in us. They are innate. But the ideas of those laws in us do not tell us that God is the author of those laws. So Descartes has to correct the account. The reasons for the laws of nature are derived from the infinite perfections of God, he says. This gives us a link, a kind of cognitive descent, from God to the laws. But it does not tell us that God established the laws. Creation is still moot, of course. Moreover, we can ask from which perfections of God does Descartes derive these laws. No answer is forthcoming here in the *Discourse*. Surely not from his omnipotence or omniscience, for this God of Descartes is allowed to do very little. He does as little as possible, and lets the laws and the evolution of time do almost everything. He is remarkably underemployed, if he possesses all of these infinite attributes. But, of course, we have the other book, *The World*, which is being summarized in *Discourse* 5. There Descartes does use one of the divine attributes—immutability—and says that from immutability he deduced the laws of nature. This means that the laws of nature are immutable, but it does not tell you what they are and what their content is. So Descartes is reduced to saying—this is, in a way, the conclusion—that God preserves the laws. His preservation of the laws is equivalent to the action by which he at first created the world. This is an old doctrine, advanced by certain medieval theologians, to reconcile divine creation with the eternity of the universe. Descartes uses it in *Discourse* 5 and the effect is that since God now only preserves the world in being—and that is the meaning of creation—God has not established anything. The world is now the same as it has ever been, coexistent with God. That is the second correction. Since neither the character of the laws nor the things that emerge thanks to them show evidence of being made by a benevolent deity, the descent from God to nature is at best empty. Neither by ascent nor by descent is God related to Cartesian nature.

We now, I think, approach the deeper level of Cartesian philosophy. We have been pursuing one metaphysical issue, the question of ultimacy or first

ultimate principles. We have seen that the relation of God to nature is simulated or empty, and that tells us that the relation of the Bible and creation, on the one hand, and the new physics, on the other, is negative or one of mutual exclusiveness. This simulation only hides from us the deeper problem, that there is no ultimate principle whatever. The phrase "laws of nature" seems to imply a divine lawgiver. But none is in fact necessary. That is to say, there's no reason in principle why we can't move directly from method to laws of nature. And that Descartes does in earlier books. The simulation of the divine lawgiver serves to dissimulate the absence of any metaphysical first principles. The laws of nature are known as laws because they satisfy the requirements of method, not because they can be traced to or lead to some metaphysical principle. In short, methodology and metaphysics are mutually exclusive.

Let's support this conclusion by considerations following a different route. Descartes speaks of laws of nature as governing matter, but what is matter? That issue belongs to physics, which he says is too controversial to discuss in the *Discourse*. That's his familiar striptease again: the most fundamental things are the things he can't talk about. He does, however, tell us crucial aspects of his doctrine, namely, in Part 4: when he speaks of the object of the geometers, he speaks of it not only as extended in length, breadth, and depth, but also as moving. The object of the geometers, in short, is simply the extension of the world, or "all my physics is part of geometry," as he says elsewhere. But what of this extension? Is it simple or compound? After all, any extension that we encounter is a compound body, capable of division; it normally does, in fact it always does divide. What are its parts? Are these ultimate parts atoms, or is extension infinitely divisible? What are the ultimate parts, if any? Descartes's position is quite evident here from the silence: we can know the laws of nature without answering the question of the nature of the ultimate parts. The metaphysical ultimacy is unnecessary. That separates in its essential character this apparently very materialist physical doctrine from the materialist physics of, say, a Lucretius, which absolutely derives from the discovery of the ultimate particles. This is the modern concept of nature. Descartes does not know the ultimate parts. Newton insisted, "I don't know the ultimate parts; I don't need to for the sake of my three fundamental laws of motion." No one today knows the ultimate parts either. Of course, the more we discover about the parts or particles, the more we have to revise the laws. Nature lacks finality. And if we don't know the ultimate parts, we certainly do not have a concept of the whole, of nature as a whole.

If man ceases to have a relationship to the whole, then what becomes crucial to him is his relationship to other men. This is the premise, you can say, of the politicization of philosophy. We have caught a glimpse of it in Part 6:

philosophy or science joining together with the body politic in the mastery of nature for the alleviation of the human condition.

We can now put the right questions to our starting point, Descartes's statement of his goal, mastery of nature. This goal sounds amazingly contemporary in the twentieth century, provided, of course, we substitute "science" for "philosophy." It is already clear in Part 6 that Descartes proposes what has become a realized fact for us. Science has become a function of society, of its needs and goals, for instance. Conversely, society is constantly dependent on science, for its well being, for its standard of living, for its military defense, and so on. Now it is not my purpose here to draw up one more balance sheet of goods and evils of this project of modern science. As students of philosophy we should note at least that the quest for understanding has lost its former directness toward transcending the political, and standing in a relationship to the whole and to that which is always. As regards political society, it has lost its fundamental characteristic as a self-sufficient community in charge of its own well-being. Its technological goals and its military security depend on a world community of scientists.

But as students of the *Discourse*, we have to ask this final question. Has this bond between philosophy or science and society been shown to be reasonable? If we cast our eye over the whole of the *Discourse on Method*, we can see that everything in Descartes's thought depends on his weaving together two quite distinct strands. Initially, he sought certainty for the sake of utility. The utility theme, the good or end for man, is throughout governed by the natural egoism, the premise that man naturally seeks his own good, which means, with all due refinement, his own pleasure. Descartes does, of course, state what sounds like a categorical law of obligation in the early part of Part 6. There is a law, he says, that obliges us to benefit other men to the degree to which it is in our power. If we note carefully, however, all the instances of the word "oblige" in Part 6, we see that he revises this categorical obligation and makes it a hypothetical obligation: If you are virtuous, that is, if you desire to benefit other men in ways possible through your science, then you are obliged. To do what? Well, to support science, experiment, exchange experiments, and so on. In short, the categorical character of the obligation simply recedes into the hedonistic or utilitarian goal. That concludes the utility theme. The other theme, the certainty theme, is spelled out in terms of mathematics, that is to say, mathematical method and mathematical physics. The utility theme and the certainty theme as articulated are irreducible to each other. That's really the key, I think, to understanding this methodology. We recognize that irreducibility in a certain way today. It is the same heterogeneity of human experience and scientific laws that is the great theme of certain twentieth-century philosophers, for example, Whitehead in *Science and*

the Modern World. The irreducibility of these two strands to each other means that they are in principle disparate. Descartes does not really say that the determination of the answer to the question "what is the right life for man?" must be based upon scientific knowledge. His reflection here is entirely in terms of human experience. We can separate these heterogeneous strands, and that is the liberating fact that we learn from the *Discourse*. We are free to interpret the nature of science in ways other than mastery of nature. We are free to learn from science while recognizing its limitations. Here, in Descartes, science does not know the ultimate, the particles; it does not know the whole. As scientific knowledge, it does not comprehend the human. If reinterpreted within these limits, its knowledge may well be an immense benefaction. But since it knows neither the whole nor the human part, we are free to philosophize independently of Cartesian and modern science.

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